Ontario

Modular Training Standards

Operate Mechanized Long Hole Drill

Program #770010

Drilling and Blasting Specialties Group
Module U0090

Ministry of Training,
Colleges and Universities

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Revision date: October 2003
Printing date: October 2004

This document is the property of the trainee/ employee named inside and represents the official record of his/her training.

Printed on recycled paper ISBN 0-7794-6125-8 © Queen's Printer for Ontario, 2004 04-077e

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TRAINING UNIT

TRAINING UNIT	TITLE	
U0090.0	Operate Mechanized Long Hole Drill.	7-11

AREAS OF COMPETENCY

COMPETENCY ANALYSIS PROFILE
OPERATE MECHANIZED LONG HOLE DRILL
ON-THE-JOB TRAINING STANDARDS
«SKILLS»

OPERATE MECHANIZED LONG HOLE DRILL **U0090.0**	Identify and respond to workplace hazards 0090.01	Inspect and scale workplace 0090.02	Extend services 0090.03	Perform pre-operational checks on long hole drill carrier 0090.04	Start up long hole drill carrier 0090.05
	Conduct operational checks on long hole drill carrier 0090.06	Operate long hole drill carrier 0090.07	Position carrier within the designated work area 0090.08	Prepare face for drilling 0090.09	Perform pre-operational checks on drill 0090.10
	Set up drill 0090.11	Drill face 0090.12	Tear down and store drill equipment 0090.13	Shut-down drill carrier 0090.14	

PREFACE

This training document was developed by the Program Development and Standards Unit of the Ministry of Training, Colleges and Universities, in consultation with representatives from the Underground Hard Rock Mining industry. These Training Standards are intended to be used by trainee, trainers/instructors and companies as a "blueprint" for training or as a prerequisite for government accreditation/certification. While this training document is intended as guidelines for training, all issues might not apply in all operations.

A Basic Underground Hard Rock Miner (entry level) is a worker who has achieved accreditation in the entire Common Core Program # 770010. The Mining Tripartite Committee recommends that the employer must provide training in the entire common core for the Basic Underground Hard Rock Miner Training Program, to the worker, within the first year of employment. The prerequisite common core and specialty modules related to a specialty module must be taken before training in the specialty module, e.g Jumbo Drill *NOTE: To be trained, and accredited, in this module the prerequisite modules from Program #770010 are U0000, U0001, U0002, U0004, U0006 and U0011. The other prerequisite modules where applicable are U0005, U0007, U0014, U0015 and U0082*. Employers have a responsibility to train workers for the work to be done.

The first three modules of Program #770010 - U0000, U0001 and U0002 are prerequisites to all other modules for the program. They must be completed before any other modules can be done and before the employee can be permitted to work underground.

Under the Occupational Health & Safety Act - R.R.O. 1990 Regulation 854, 11.3 there is an allowance for the recognition of equivalent training from other jurisdictions to Ontario training. Based on a comparison of the two programs, the Mining Tripartite Committee has deemed Quebec's Formation Modulaire du Travailleur Minier (FMTM) program to be equivalent to Ontario's Program #770010 Common Core except for specific mine orientation (U0000, Follow Surface and Underground Induction Procedures) and secondary blasting (U0006, Blast Rock). Employers should contact their local apprenticeship office for details about the requirements associated with these equivalencies.

New trainees or experienced miners must obtain accreditation in the same way. Each must demonstrate the skills specified in each Performance Objective to the described minimal acceptable standard as prescribed in each module. These demonstrations must be administered in an operating mine by a trainer designated by the company who shall follow the Performance Demonstration Guidelines approved by the Mining Tripartite Committee.

The care and maintenance of this book is the joint responsibility of the trainee and the employer. The Training Standards were developed specifically for documenting the trainee's acquisition of skills.

PREFACE - Cont'd

Areas of the Basic Underground Hard Rock Common Core including mechanical staging, drilling, rock bolting, and mucking may infringe on some speciality modules for purposes of safety and technological changes. However, accreditation in these areas of the Common Core is not intended to replace accreditation in the speciality modules.

Throughout the document the term "including" is often used. "Including" means : one or more of the items listed, but not limited to those items included in the list.

N.B. Re: Lock out and /or tag, where it is practical or possible to lock, then locking and tagging should be the norm.

NOTICE/DECLARATION FOR COLLECTION OF PERSONAL INFORMATION

1. This information is collected under the authority of the Order-In-Council Number 701/85.

2. The information is collected for the purpose of administering this modular training program within the Province of Ontario.

3. Questions regarding collection and use of this information may be directed to:

Director of Apprenticeship
Workplace Training Branch
Ministry of Training, Colleges and Universities
900 Bay Street
17th Floor
Toronto, Ontario
M7A 1L2
(416) 326-5605

IMPORTANT DIRECTIONS TO TRAINERS

Trainers instructing workers in the specialty modules for Program 770010 must meet the Trainer Qualification and Criteria Guidelines for Program #770010. They must be accredited in the Basic Common Core Underground Hard Rock program #770010 and the specialty module they will be instructing. Contact your local apprenticeship office for a copy of the Trainer Qualification and Criteria Guidelines.

The Training Standards identify skills required for this occupation and its related training program.

These Training Standards have been written in concise statements which describe how well a trainee must perform each skill in order to become competent.

In using these Training Standards, trainers will be able to ensure that the trainee is developing skills detailed for the occupation.

Trainers and trainees are required to sign off and date the skills following each successful acquisition.

Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement in the space provided at the end of each unit.

IMPORTANT DIRECTIONS TO THE TRAINEE

Trainee

1. It is the responsibility of the trainee to inform the local Apprenticeship Client Services office regarding the following changes:

    - change of trainee name or address;
    - transfer to a new employer;

2. Training Reports must be signed for modular trainees by a Ministry of Training, Colleges and Universities designated Signing Authority and forwarded to a local Apprenticeship Client Services office.

3. At the completion of training, the Trainee Completion Form must be completed and signed off by the Signing Authority and submitted to local Apprenticeship Client Services office.

UNDERGROUND HARD ROCK MINING SPECIALITY MODULES LISTING BY GROUPS

GROUP 1 PRODUCTION SPECIALTIES

U0051 Perform Non-Mechanized Room and Pillar Mining
U0052 Perform Mechanized Room and Pillar Mining
U0053 Perform Shrinkage Mining
U0054 Perform Regular Cut and Fill Mining
U0055aPerform Mechanical Cut and Fill Mining- Non Captive Stope
U0055bPerform Mechanical Cut and Fill Mining- Captive Stope
U0056 Perform Square Set Mining
U0057 Perform Under Cut and Fill Mining
U0058 Perform Non-Mechanized Bulk Mining
U0059 Perform Mechanized Bulk Mining

GROUP 2 DEVELOPMENT SPECIALTIES

U0016 Perform Non Mobile-Trackless Drifting
U0060 Perform Mobile Drifting
U0061 Perform Non-Mobile Track Drifting
U0062 Perform Conventional Untimbered Raising
U0063 Perform Conventional Timbered Raising
U0064 Perform Mechanized Raising
U0065Perform Drop/Inverse Raising Mechanized/NonMechanized
U0066aPerform Shaft Sinking- Timber Lining Installation
U0066bPerform Shaft Sinking- Concrete Lining Placement
U0066cPerform Shaft Mucking
U0066dPerform Shaft Drilling and Blasting

GROUP 3 HAULAGE SPECIALTIES

U0015 Maintain Tire and Wheel Assemblies
U0017 Operate Scram Drift
U0019 Perform Track Haulage- Operate U/G haulage Train Remote Control
U0020 Perform Trackless-Haulage Operate Scoop Tram-Remote Control
U0023 Operate Front-End Loader
U0067 Perform Track Haulage- Operate U/G Haulage Train

GROUP 4 DRILLING AND BLASTING SPECIALTIES

U0069 Operate Non-Mechanized Long Hole Drill
U0070 Operate In-The-Hole Drilling
U0072 Operate Raise Bore Drill
U0089 Operate Mechanized Jumbo Drill
U0090 Operate Mechanized Long Hole Drill
U0092 Perform Mobile Bulk Blasting
U0093 Perform Non-Mobile Bulk Blasting

GROUP 3 HAULAGE SPECIALTIES - cont'd

U0068aPerform Trackless Haulage-Operate Scoop Tram Draw Point
U0068bPerform Trackless Haulage-Operate Scoop Tram Production/Development
U0091 Operate Haulage Truck

GROUP 5 GENERAL SERVICES
U0013 Operate Lifting Mechanism(s)
U0014 Operate Forklift
U0018 Operate Mechanized Rock Bolter
U0021 Operate Bulldozer
U0022 Operate Grader
U0024 Operate Utility Vehicle
U0025 Operate Mechanized Muck Conditioner
U0026 Operate Mechanized Cable Bolter
U0027 Operate Non-Mechanized Cable Bolter
U0028 Operate Scissor Lift
U0029 Operate Rock Breaker
U0033 Operate Oxyacetylene Cutting Equipment
U0035 Operate Backhoe
U0036 Operate Overhead Crane
U0074 Operate Mine Hoist- Friction or Drum
U0075 Install and Maintain Track System
U0076 Perform Fill Placement
U0077 Operate Underground Crusher
U0078 Operate Underground (Filter) Decantation System
U0079 Operate Conveyor
U0080 Install and Maintain Underground Pipe System
U0081 Operate Tipple
U0082 Install and Maintain Underground Ventilation Equipment

GROUP 6 SHAFT SERVICES
U0083 Operate Cage
U0084 Perform Shaft Maintenance
U0088 Operate Skip

GROUP 7 CONSTRUCTION SERVICES
U0085aConstruct Concrete Installations
U0085bConstruct Timber Installations
U0085cConstruct Steel Installations
U0086 Perform Shotcreting

TRAINEE COMPLETION FORM

Trainee Name _____
Print

_____
Signature

Social Insurance Number _____

The Training Unit, when completed, should be signed off by Trainer/ Signing Authority below. Submit required documentation to your local Apprenticeship Client Services office. Any supporting documentation should also be attached.

Employer Name: _____

Address: _____

Telephone: _____

Signing Authority: _____
Signature

TRAINING UNIT COMPLETION FORM

TRAINING UNIT	TITLE	SIGNING AUTHORITY
U0090.0	Operate Mechanized Long Hole Drill	_____

U0090.0 OPERATE MECHANIZED LONG HOLE DRILL

GENERAL PERFORMANCE OBJECTIVE

Operate mechanized long hole drill by identifying and responding to workplace hazards; inspecting and scaling workplace; extending services; performing pre-operational checks on drill carrier; starting up drill carrier; conducting operational checks on drill carrier; operating drill carrier; positioning drill carrier; preparing face for drilling; performing preoperational checks on drill; setting up drill; drilling face; tearing down and storing drill equipment; and shutting down drill carrier according to government legislation, company standards and manufacturer specifications.
NOTE: To be trained, and accredited, in this module the prerequisite modules are U0000, U0001, U0002, U0004, U0006, and U0011 from Program #790010. The other prerequisite modules where applicable are U0015, U0024, and U0082.

PERFORMANCE OBJECTIVES

Trainer's Name (Print) _____ Trainee's Name (Print) _____

SKILLS

0090.01 Identify and respond to workplace hazards, including: ground conditions, ventilation, open holes above/ below, and housekeeping, by isolating area; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed _____ Trainer's Signature _____ Trainee's Signature _____

0090.02 Inspect and scale workplace, by selecting scaling bar for the specific job based on type, size and condition; fastening and connecting hoses; washing down area; setting water flow to control dust; performing scaling procedures; checking ventilation flow; and taking corrective action and/or reporting according to government legislation and company standards.

Date Completed _____ Trainer's Signature _____ Trainee's Signature _____

U0090.0 OPERATE MECHANIZED LONG HOLE DRILL - Cont'd

0090.03 Extend services, including: air, water, power, ventilation, and communication lines, by bleeding air and water lines; flushing and installing headers; fastening, securing, hanging and supporting services; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation and company standards.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.04 Perform pre-operational checks on long hole drill carrier, by testing power source; checking fluid levels; following refueling and lubricating procedures; inspecting principle components, including: steps, handrails; chassis, engine/power source, power train, controls, boom, traverse, jacks, wheel chocks, tow bar, trailing cable, cable reel, boom cylinders, lighting, communication and warning systems; visually inspecting fire extinguishers and fire suppression systems; checking pins and nozzles; inspecting tire and wheel assemblies; inspecting/testing braking systems; using 3 point contact while mounting and dismounting; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.05 Start up long hole drill carrier, by activating power source; using audible warning systems; observing equipment operation and gauges; checking for clearances and activity in area; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

U0090.0 OPERATE MECHANIZED LONG HOLE DRILL - Cont'd

0090.06 Conduct operational checks on long hole drill carrier, by monitoring gauges and meters, including: oil and air pressure, lights and warning systems, temperature, alternator output, transmission and torque pressure; listening for unusual noises in engine/power train; placing boom/traverse in travel position; inspecting steering, tow bar; testing brakes; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.07 Operate long hole drill carrier, by ensuring clearances and clear machine path; placing boom/traverse in travel position; complying with speed limits, traffic signs and signals; testing brakes; selecting gears for ramps; maintaining road ways; ensuring required ventilation; noting direction of ventilation flow and position of ventilation/fire doors; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.08 Position carrier within the designated work area, by setting park brake; lowering stabilizer jacks; positioning wheel chocks; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

U0090.0 OPERATE MECHANIZED LONG HOLE DRILL - Cont'd

0090.09 Prepare face for drilling, by blowing/flushing lines; connecting air and water hoses; washing face; scaling loose rock; cleaning and marking bootleg and old cut, using non-sparking materials; ensuring procedures for reporting and handling misholes are followed; cleaning and marking lifters; marking line, grade and drill pattern; controlling drainage; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.10 Perform pre-operational checks on drill, with controls in off position, by inspecting drilling components, including: boom, boom cylinders, pins and hoses, stingers, carousel, couplings, rod racks, boom cable reels/spools, drill platform and console; draining air systems and compressors; inspecting drill rods/steel and drill steel centralizer; inspecting trailing cable; checking lubricator; locking out and or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.11 Set up drill, with controls in off position, by selecting/checking rock drill rods/steel and bits; blowing air and water hoses; positioning drill and stingers; connecting lubricator to hoses; installing safety devices, including: ground fault protection, jacks, and whip checks; connecting hoses to drill; filling lubricator; connecting power supply; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

U0090.0 OPERATE MECHANIZED LONG HOLE DRILL - Cont'd

0090.12 Drill face, by collaring hole and drilling to pre-determined depth and pattern; checking bootlegs and old cut; installing casings on down holes; following break through procedures; following line and grade; performing secondary scaling; monitoring general condition of drill, including: lubrication, hoses and controls; checking exhaust systems; ensuring sound footing; using personal protective equipment; identifying/avoiding pinch points; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.13 Tear down and store drill equipment, by shutting off and bleeding air and water lines; disconnecting air and water hoses; shutting off power; performing post-operational checks; completing operator report and drill report; storing drilling equipment in designated/approved areas; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

0090.14 Shut-down drill carrier, by bleeding lines; positioning jacks; disconnecting power cables; placing booms in travel position; parking in designated/approved area; applying wheel chocks; performing post-operational checks; completing operator report; locking out and/or tagging; and repairing and/or reporting deficiencies according to government legislation, company standards and manufacturer specifications.

Date Completed	Trainer's Signature	Trainee's Signature
_____	_____	_____

	Employer's Name	Employer's Signature
	_____	_____